

REMARKS/ARGUMENTS

This is a Response to the Office Action mailed September 29, 2006, in which a three (3) month Shortened Statutory Period for Response has been set, due to expire December 29, 2006. Nineteen (19) claims, including two (2) independent claims, were paid for in the application. No fee for additional claims is due by way of this Response. The Director is authorized to charge any additional fees due by way of this Response, or credit any overpayment, to our Deposit Account No. 19-1090. Upon consideration of the Remarks herewith, claims 1-19 remain pending.

1. Interview Summary

Applicants thank the Examiner for conducting an interview by phone on December 20, 2006. The Examiner and the Applicants' undersigned attorney discussed the short-hand notation used by the Office Action in referencing art used to establish the basis of the rejections of the present Office Action. For example, the reference to "Aoshima et al. '551" at page 3 of the present Office Action was identified in the Applicants' previously filed Information Disclosure Statement (IDS) as U.S. Publication 2003/1090551. Accordingly, if the reference was provided in an IDS, and the reference was either a U.S. patent or publication, the short-hand notation of the Office Action will cite the reference using the last three digits of the patent number or the publication number plus the named inventor (with "et al." if appropriate).

The need for Supplemental Information Disclosure Statements arising from double-patenting rejections was also discussed. Applicants' undersigned attorney explained the Applicants' reason for the submission of the supplemental Information Disclosure Statement filings and the basis of relevance of the art therein.

2. Information Disclosure Statement Basis of Relevance

The Examiner has requested that the Applicants identify "why the cited reference is pertinent including relevant portions of the document cited. The citation by the applicant of a

large number of references of limited relevance together with a few relevant references could have a negative effect on the durability of any issued patent against litigation.”

The Information Disclosure Statements were provided because, in part, of double-patenting rejections asserted in related cases, with which Applicants do not agree and believe is improper. However, if the Examiner believes that the claims of the related cases were sufficiently similar to warrant a double-patenting rejection, the art from the related co-pending applications and/or related patents might be considered relevant by the Examiner of the present application. Accordingly, the art of record, if not already disclosed, was disclosed out of an abundance of caution. This is the reason for the submission and the basis of relevance provided by Applicants’ attorney.

3. Rejections Under 35 U.S.C. §102(a) and §103(a)

In the Office Action, at paragraph 4, claims 1-3, 5-7, 9-13, 15-17, and 19 stand rejected under 35 U.S.C. §102(a) as allegedly fully anticipated by *Aoshima et al.* (EP 1351230), hereinafter *Aoshima* EP 1351230. At paragraph 5, claims 1-19 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over *Aoshima* EP 1351230.

The Applicants respectfully point out that *Aoshima* EP 1351230 was published on October 8, 2003. The present application was filed in the U.S. on January 26, 2004, and claimed priority to Japanese Patent Application No. 2003-19170 filed on January 28, 2003. The January 28, 2003, foreign priority date precedes the October 8, 2003, publication date of *Aoshima* EP 1351230. Therefore, *Aoshima* EP 1351230 does not properly qualify as prior art.

Accordingly, it is respectfully requested that rejection made on the basis of *Aoshima* EP 1351230 be withdrawn.

The English-language translations of the priority Japanese Patent Application Nos. 2002-307369 and 2003-005635, as well as the requisite signed statement by a translator conversant in the English and Japanese languages, will be filed in due course subsequent to filing of this Response.

4. Rejections Under 35 U.S.C. §102(e) and § 103(a)

In the Office Action, at paragraph 6, claims 1-3, 5-7, 9-13, 15-17, and 19 stand rejected under 35 U.S.C. §102(e) as allegedly anticipated by *Aoshima et al.* (U.S. Patent Publication No. 2003/0190551), hereinafter *Aoshima '551*. At paragraph 7, claims 1-19 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over *Aoshima '551*.

The Applicants respectfully point out that *Aoshima '551* was filed in the U.S. on April 2, 2003. The present application was filed in the U.S. on January 26, 2004, and claimed priority to Japanese Patent Application No. 2003-19170 filed on January 28, 2003. The January 28, 2003, foreign priority date precedes the April 2, 2003, filing date of *Aoshima '551*. Therefore, *Aoshima '551* does not properly qualify as prior art.

Accordingly, it is respectfully requested that rejection made on the basis of *Aoshima '551* be withdrawn.

5. Rejections Under 35 U.S.C. § 102(e)

In the Office Action, at paragraph 8, claims 1-19 stand rejected under 35 U.S.C. §102(e) as allegedly anticipated by *Mishima et al.* (U.S. Patent Publication No. 2004/0152016), hereinafter *Mishima '016*.

The Applicants respectfully point out that *Mishima '016* was filed in the U.S. on December 30, 2003. The present application was filed in the U.S. on January 26, 2004, and claimed priority to Japanese Patent Application No. 2003-19170 filed on January 28, 2003. The January 28, 2003, foreign priority date precedes the December 30, 2003, filing date of *Mishima '016*. Therefore, *Mishima '016* does not properly qualify as prior art.

Accordingly, it is respectfully requested that rejection made on the basis of *Mishima '016* be withdrawn.

6. Rejections Under 35 U.S.C. § 102(e)

In the Office Action, at paragraph 9, claims 1-19 stand rejected under 35 U.S.C. §102(e) as allegedly anticipated by *Inuoe et al.* (U.S. Patent Publication 2004/0076907),

hereinafter *Inuoe '907*. At paragraph 10, claims 1-19 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over *Inuoe '907*.

The Applicants respectfully point out that *Inuoe '907* was filed in the U.S. on October 14, 2003. The present application was filed in the U.S. on January 26, 2004, and claimed priority to Japanese Patent Application No. 2003-19170 filed on January 28, 2003. The January 28, 2003, foreign priority date precedes the October 14, 2003, filing date of *Inuoe '907*. Therefore, *Inuoe '907* does not properly qualify as prior art.

Accordingly, it is respectfully requested that rejection made on the basis of *Inuoe '907* be withdrawn.

7. Rejections Under 35 U.S.C. § 103(a)

In the Office Action, at paragraph 11, claims 1-8, 10-14, and 19 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over either *Xu et al.* (CN 1330368), hereinafter *Xu*, or *Shuy et al.* (U.S. Patent Application 2001/0021160), hereinafter *Shuy*, in view of either of *Yoshida et al.* (JP 10-143919), hereinafter *Yoshida*, or *Aratani et al.* (EP 1122723), hereinafter *Aratani*. It is well-established at law that, for a proper rejection of a claim under 35 U.S.C. §103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements and/or features of the claim at issue. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

a. Independent Claim 1

Applicants respectfully submit that claim 1 is allowable for at least the reason that the proposed combination of either *Xu* or *Shuy* in view of either *Yoshida* or *Aratani* does not disclose, teach, or suggest at least the feature of “a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive,” as recited in claim 1.

The Office Action at pages 5-6 notes that both *Xu* and *Shuy* fail to disclose, teach, or suggest using additives to the *second recording layer* comprising primarily Cu. The Office Action uses the teachings of *Yoshida* or *Aratani* to cure the deficiencies of both *Xu* and *Shuy*.

The Office Action at page 6 notes that “the addition of Fe, Mn, Au, Pt, Pd, Ti, Mo, Ta, Zr, V, W, etc. in amounts of 0.1-10% to further improve the corrosion resistance is disclosed [0018]” in *Yoshida*. Applicants respectfully point out that the present invention is not related to corrosion resistance. Rather, claim 1 relates, in part, to an additive and Cu in a second *recording layer*. Accordingly, a proper secondary reference would address aspects of an additive and Cu in a second recording layer rather than a corrosion resistant reflective layer.

i. *Xu* or *Shuy* Modified by *Yoshida*

Yoshida fails to disclose, teach, or suggest having additives in a *second recording layer* comprising a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive for at least the following reasons.

First, *Yoshida* is limited to disclosing only a single recording layer, dyestuff film 4, and a reflection (or reflective) film 3 (Drawings 1 and 2). *Yoshida* discloses “the energy of light ... is absorbed and an optical constant changes as coloring matter of the coloring matter film 4” changes (paragraph 0015). Here, *Yoshida* uses an “approach of dissolving organic coloring matter in an organic solvent” (paragraph 0016). There is no second recording layer in *Yoshida*. Accordingly, the second recording layer of both *Xu* and *Shuy* cannot be modified by *Yoshida*’s second recording layer that has Cu and an additive (since there is no second recording layer).

However, *Yoshida* does disclose the reflective film 3. The computer-translated version of *Yoshida* discloses that the “the reflective film 3 consists of a thin film of the presentation which does 1-30 atom % content of 70 to 99 atom %, and aluminum for Cu in this invention. The presentation range of the thin film specified above is important when giving the reflective film of a high reflection factor and corrosion-resistant” (paragraph 0017). Applicants interpret the above translation to mean that the reflective film 3 is 70 to 90 atom % Cu and 1 to 30 atom % aluminum.

There is no disclosure whatsoever of any type of reaction occurring between the coloring matter film 4 and the reflective film 3. The reflective film 3 is limited to reflecting light and does not serve as part of a second recording layer.

Accordingly, the *Yoshida* reflective film 3 cannot be used as the second recording layer of either *Xu* or *Shuy* because it is not a recording layer (and, accordingly, is not disclosed as mixing with the first recording layer of either *Xu* or *Shuy*). That is, if the *Yoshida* reflective film 3 (which is not a recording layer) is combined into either *Xu* or *Shuy*, the modified *Xu* or *Shuy* recording medium would only have a reflective film added into the recording medium. Alternatively, if the *Yoshida* reflective film 3 (which is not a recording layer) replaces either the *Xu* or *Shuy* second recording layer, the modified *Xu* or *Shuy* recording medium would fail to operate as intended, since only the first *Xu* or *Shuy* recording layer would remain.

Therefore, the *Yoshida* reflective film 3 cannot cure the deficiency in the teachings of either *Xu* or *Shuy* and the proposed combination of either *Xu* or *Shuy* in view of *Yoshida* does not disclose at least the above-recited limitations of claim 1. Therefore, a *prima facie* case establishing an obviousness rejection by either *Xu* or *Shuy* in view of *Yoshida* has not been made. Thus, claim 1 is not obvious under proposed combination of either *Xu* or *Shuy* in view of *Yoshida* and the rejection should be withdrawn.

ii. *Xu* or *Shuy* Modified by *Aratani*

Aratani also fails to disclose, teach, or suggest having additives in a *second recording layer* comprising a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive for at least the following reasons.

First, *Aratani* discloses an information layer 2. *Aratani* is limited to disclosing an “information layer 2 on which information recording portion is formed by physical change of shape, or uneven pits, is formed on one major surface of a transparent substrate 1 consisting of, e.g., polycarbonate (PC) by physical change of surface or by making uneven pits” (paragraph 0034). “In the information layer 2, for example, parts of which are shown in the schematic plan views of FIG. 2 and FIG. 3, respectively, an essential recording portion 12 in which data information or the like is formed as uneven pits 12P obtained by transformation in a direction of thickness as shown in FIG. 2, or as shown in FIG. 3, an essential recording portion 12 in which the data information or the like is formed as a winding guide groove 12G obtained by transformation in a direction of track width” (paragraph 0036). “These recording portions 12,

i.e., the uneven pits 12P, the winding guide groove 12G, or the like are formed on a major surface of the substrate 1 by injection molding using a stamper having corresponding pits or a corresponding groove synchronously with molding of the substrate 1, or can be formed by a normal method using a so-called 2P method such that, e.g., an ultraviolet setting resin is coated on a transparent substrate, and a stamper having desired pits or a desired groove is pressed to set the ultraviolet setting resin" (paragraph 0037). "When recording is performed by using uneven pits 12P as the recording portion 2, in general, the recording *information is recorded in the form of an edge position in the direction of running of the pit*" (paragraph 0055, emphasis added). Clearly, this information layer 2 is part of the "winding guide groove" which physically defines the path of the recording medium track and includes recorded information based upon the physical position of the edge of the pit. That is, information layer 2 contains information based upon a physical structure. Thus, information layer 2 is not a recording layer which mixes with another layer to irreversibly form a mixed region.

Next, *Aratani* discloses a reflective film 3. "Reflective film 3 is adhered to the entire surface of the information layer 2" (paragraph 0034). "The reflective film 3 is adhesively formed on the entire surface of the information layer 2. The reflective film 3 causes the information layer 2 to have the function of the reflective film obtained in reading of an essential record such as data information from the recording portion 12. However, at the same time, in the present invention, the reflective film 3 is used as a recording layer *for additional recording*. More specifically, an *additional recording region* is also constituted by the reflective film 3" (paragraph 0038, emphasis added). "The reflective film 3 is made of a metal film or a semiconductor film, the reflectance of which can be varied in a predetermined range for the aforementioned reading beam due to thermal recording by for example laser irradiation" (paragraph 0040). "The additional recording region may be formed in the essential recording portion 12 depending on the purpose of an additional record or may be formed out of the forming region of the essential recording portion 12" (paragraph 0039). "A fine change occurs on the basis of a change in reflectance of the additional recording portion 2, i.e., an increase or decrease in reflectance as indicated by a broken line with respect to a reproduction output obtained by, e.g., recording pits indicated by a solid line in FIG. 5. Therefore, when the fine change is

detected, the small detection output can be used as a reproduction signal of additional recording” (paragraph 0056).

Summarizing, there are two separate and distinct recording media: (1) the information recorded in the physical characteristics of the information layer 2 (*i.e.*, the recorded information based upon the physical position of the edge position of the pit) and (2) the additional recording region having a varying reflectance induced on the reflective film 3. Nowhere is there any disclosure that upon irradiation with a laser beam, the information layer 2 and the additional recording region (reflective film 3 having Cu and an additive) *mix* with each other to irreversibly form a mixed region.

Accordingly, the *Aratani* reflective film 3 cannot be used as the second recording layer of either *Xu* or *Shuy* because *Aratani* does not disclose that the reflective film 3 is a second recording layer that mixes with another recording layer. That is, if the *Aratani* reflective film 3 (which does not mix with another recording layer) is combined into either *Xu* or *Shuy*, the modified *Xu* or *Shuy* recording medium would only have the *Aratani* reflective film 3 (which does not mix with another recording layer) added into recording medium. Alternatively, if the *Aratani* reflective film 3 (which does not mix with another recording layer) replaces either the *Xu* or *Shuy* second recording layer, the modified *Xu* or *Shuy* recording medium would fail to operate as intended, since only the first *Xu* or *Shuy* recording layer would remain and would not mix with the *Aratani* reflective film 3.

Therefore, the *Aratani* reflective film 3 cannot cure the deficiency in the teachings of either *Xu* or *Shuy* and the proposed combination of either *Xu* or *Shuy* in view of *Aratani* does not disclose at least the above-recited limitations of claim 1. Therefore, a *prima facie* case establishing an obviousness rejection by either *Xu* or *Shuy* in view of *Aratani* has not been made. Thus, claim 1 is not obvious under proposed combination of either *Xu* or *Shuy* in view of *Aratani*.

b. Independent Claim 11

Applicants respectfully submit that claim 11 is allowable for at least the reason that the proposed combination of either *Xu* or *Shuy* in view of either *Yoshida* or *Aratani* does not

disclose, teach, or suggest at least the feature of “a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive,” as recited in claim 11.

The Office Action at pages 5-6 notes that both *Xu* and *Shuy* fail to disclose, teach, or suggest using additives to the *second recording layer* comprising primarily Cu. The Office Action uses the teachings of *Yoshida* or *Aratani* to cure the deficiencies of both *Xu* and *Shuy*.

The Office Action at page 6 notes that “the addition of Fe, Mn, Au, Pt, Pd, Ti, Mo, Ta, Zr, V, W, etc. in amounts of 0.1-10% to further improve the corrosion resistance is disclosed [0018]” in *Yoshida*. Applicants respectfully point out that the present invention is not related to corrosion resistance. Rather, claim 11 relates, in part, to an additive and Cu in a *second recording layer*. Accordingly, a proper secondary reference would address aspects of an additive and Cu in a second recording layer rather than a corrosion resistant reflective layer.

The Examiner is respectfully referred above to the arguments for allowability of claim 1 which demonstrate that *Yoshida* fails to disclose, teach, or suggest having additives in a *second recording layer* comprising a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive. The Examiner is further respectfully referred above to the arguments for allowability of claim 1 which demonstrate that *Aratani* also fails to disclose, teach, or suggest having additives in a *second recording layer* comprising a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive.

Since *Yoshida* or *Aratani* cannot cure the deficiency in the teachings of either *Xu* or *Shuy*, the proposed combination of either *Xu* or *Shuy* in view of *Yoshida* or *Aratani* does not disclose at least the claimed limitations of claim 11. Therefore, a *prima facie* case establishing an obviousness rejection by either *Xu* or *Shuy* in view of *Yoshida* or *Aratani* has not been made. Thus, claim 11 is not obvious under proposed combination of either *Xu* or *Shuy* in view of *Aratani*.

c. Dependent Claims

Because independent claim 1 is allowable over the cited art of record, dependent claims 2-8 and 10 (which depend from independent claim 1) are allowable as a matter of law for at

least the reason that the dependent claims 2-8 and 10 contain all features/elements of independent claim 1. Similarly, because independent claim 11 is allowable over the cited art of record, dependent claims 12-14 and 19 (which depend from independent claim 11) are allowable as a matter of law for at least the reason that the dependent claims 12-14 and 19 contain all features/elements of independent claim 11. See, *e.g.*, *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Accordingly, the rejection to these claims should be withdrawn.

8. Rejections Under 35 U.S.C. § 103(a)

In the Office Action, at paragraph 12, claims 1-19 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over either *Xu* or *Shuy* in view of either *Yoshida* or *Aratani* further in view of *Morimoto et al.* (U.S. Patent 4,670,345), hereinafter *Morimoto*, and *Liang et al.* (EP 822543), hereinafter *Liang*. It is well-established at law that, for a proper rejection of a claim under 35 U.S.C. §103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements and/or features of the claim at issue. See, *e.g.*, *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

a. Claims 1 and 11

As noted above with respect to claims 1 and 11, a *prima facie* case establishing an obviousness rejection by either *Xu* or *Shuy* in view of *Yoshida* or *Aratani* has not been made. Therefore, claims 1 and 11 are not obvious over either *Xu* or *Shuy* in view of *Yoshida* or *Aratani*. Accordingly, the disclosures of *Morimoto* and/or *Liang* must be used to cure the deficiencies described above with respect to the proposed combinations of either *Xu* or *Shuy* in view of *Yoshida* or *Aratani*. For brevity, the Examiner is respectfully referred above to the arguments for allowability of claims 1 and 11.

b. *Morimoto*

The Office Action, at page 6, states that *Morimoto* “teaches that the reflective layer may be on the same side of the recording film as the substrate if topside recording is to be

used and on the opposite side of the recording films from the substrate if recording is to take place through the substrate (6/42-65). The dielectric layers (metallic compound layers) are disclosed as providing improvements in the stability and sensitivity (7/42-8/12). The prevention of direct contact with the recording layer is disclosed. (7/1-10). The protective layer can be organic materials (14/62-15/5).”

Clearly, *Morimoto* does not disclose, teach, or suggest at least the feature of “a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive,” as recited in independent claims 1 and 11. Since *Morimoto* cannot be used to remedy the above-described deficiencies in the proposed combinations of either *Xu* or *Shuy* in view of *Yoshida*, *Uchiyama*, or *Aratani*, a *prima facie* case establishing an obviousness rejection by either *Xu* or *Shuy* in view of *Yoshida*, *Uchiyama*, or *Aratani* and in further view of *Morimoto*, has not been made. Thus, independent claims 1 and 11 are not obvious under proposed combination of either *Xu* or *Shuy* in view of *Yoshida*, *Uchiyama*, or *Aratani* and in further view of *Morimoto*.

c. Liang

The Office Action, at page 7, states that *Liang* “teaches a protective layer (40) having a thickness of 3-10 microns (embodiment 1, 5/9-47).”

Clearly, *Liang* does not disclose, teach, or suggest at least the feature of “a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive,” as recited in independent claims 1 and 11. Since *Liang* cannot be used to remedy the above-described deficiencies in the proposed combinations of either *Xu* or *Shuy* in view of *Yoshida* or *Aratani*, a *prima facie* case establishing an obviousness rejection by either *Xu* or *Shuy* in view of *Yoshida* or *Aratani* and in further view of *Liang*, has not been made. Thus, independent claims 1 and 11 are not obvious under proposed combination of either *Xu* or *Shuy* in view of *Yoshida* or *Aratani* and in further view of *Liang*.

d. Dependent Claims

Because independent claim 1 is allowable over the cited art of record, dependent claims 2-10 (which depend from independent claim 1) are allowable as a matter of law for at least

the reason that the dependent claims 2-10 contain all features/elements of independent claim 1. Similarly, because independent claim 11 is allowable over the cited art of record, dependent claims 12-19 (which depend from independent claim 11) are allowable as a matter of law for at least the reason that the dependent claims 12-19 contain all features/elements of independent claim 11. Accordingly, the rejection to these claims should be withdrawn.

9. Obviousness-Type Double Patenting Rejections

The Office Action has provisionally rejected claims 1-19 under the judicially-created doctrine of obviousness-type double patenting as being obvious over copending U.S. Patent Application No. 10/406,109 (U. S. Patent Publication No. 2003/0190551) filed by *Aoshima et al.*

Applicants are submitting herewith a terminal disclaimer pertaining to U.S. Patent Application No. 10/406,109. Accordingly, the rejection to the pending claims 1-19 should be withdrawn.

10. Conclusion

In light of the above remarks, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that all pending claims 1-19 are allowable. Applicants, therefore, respectfully request that the Examiner reconsider this application and timely allow all pending claims. The Examiner is encouraged to contact Mr. Armentrout by telephone to discuss the above and any other distinctions between the claims and the applied references, if desired. If the Examiner notes any informalities in the

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claims, he is further encouraged to contact Mr. Armentrout by telephone to expediently correct such informalities.

Respectfully submitted,

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Enclosure:

Terminal Disclaimer to Obviate a Double Patenting Rejection Over a Pending
"Reference" Application

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